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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,772	12/28/2001	James F. Arnold	SRI/4565-1	9261

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EXAMINER

LERNER, MARTIN

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/033,772	Applicant(s) ARNOLD ET AL.	
	Examiner Martin Lerner	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 to 31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/28/01</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 5 to 7, 9, 13 to 16, 20, 22, and 26 to 31 are rejected under 35 U.S.C. 102(a) as being anticipated by *Thrift et al.*

Regarding independent claims 1, 15, 16, and 30, *Thrift et al.* discloses a method, system, and computer-readable medium, comprising:

“receiving a speech signal locally from a user via a client device” – microphone 10b receives voice input from a user; voice activated control unit 10 (“a client device”) has microphone 10b (column 2, lines 59 to 62: Figure 1);

“performing speech recognition on said speech signal in accordance with an embedded speech recognizer of said client device to produce a recognizable text signal, wherein said embedded speech recognizer employs a language model” – in one embodiment, control unit 10 performs all of the voice recognition process and delivers speech data to host computer 11 via transmitter 10g (column 3, lines 1 to 3: Figure 1); if control unit 10 performs all voice recognition processes, memory 10f stores these processes (as a voice recognizer) as well as grammar files (column 3, lines 22 to 45: Figure 1); broadly, grammar files are “a language model”; implicitly, speech data is in

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the form of “a recognizable text signal” because speech recognition generates text from speech;

“adapting said performance of speech recognition based on at least one local parameter” – memory 10f stores a grammar file generator for dynamically generating a grammar (column 3, lines 41 to 45: Figure 1); grammars for speakable links may be dynamically created so that only the grammar for a current display is active and is updated when a current display is generated; dynamic grammar creation reduces the amount of required memory 10f; dynamic grammar files are created from current Web pages; every time the screen 40 changes, the user agent 64 creates a grammar containing the currently visible links (column 5, line 48 to column 6, line 25: Figure 5); dynamic updating of grammar files every time a screen changes is equivalent to “adapting said performance of speech recognition”, where changing of a screen is “at least one local parameter”;

“forwarding said recognizable text signal to a remote server” – the output of the voice recognizer is speech data; the speech data is transmitted to host system 11 (“a remote server”), which performs voice control interpretation processes (column 3, lines 45 to 56: Figure 1).

Regarding independent claims 9, 22, and 31, *Thrift et al.* discloses a method, server, and computer-readable medium, comprising:

“receiving a recognizable text signal representative of a user speech signal from a client device, wherein said recognizable text is generated using a speech recognizer

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having a language model on said client device” – microphone 10b receives voice input from a user; voice activated control unit 10 (“a client device”) has microphone 10b (column 2, lines 59 to 62: Figure 1); in one embodiment, control unit 10 performs all of the voice recognition process and delivers speech data to host computer 11 via transmitter 10g (column 3, lines 1 to 3: Figure 1); if control unit 10 performs all voice recognition processes, memory 10f stores these processes (as a voice recognizer) as well as grammar files (column 3, lines 22 to 45: Figure 1); broadly, grammar files are “a language model”; implicitly, speech data is in the form of “a recognizable text signal” because speech recognition generates text from speech;

“wherein said recognizable text is generated in accordance with adapting said performance of speech recognition based on at least one local parameter” – memory 10f stores a grammar file generator for dynamically generating a grammar (column 3, lines 41 to 45: Figure 1); grammars for speakable links may be dynamically created so that only the grammar for a current display is active and is updated when a current display is generated; dynamic grammar creation reduces the amount of required memory 10f; dynamic grammar files are created from current Web pages; every time the screen 40 changes, the user agent 64 creates a grammar containing the currently visible links (column 5, line 48 to column 6, line 25: Figure 5); dynamic updating of grammar files every time a screen changes is equivalent to “adapting said performance of speech recognition”, where changing of a screen is “at least one local parameter”;

“processing said recognizable text signal in accordance with a task model” – the output of the voice recognizer is speech data; the speech data is transmitted to host

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system 11 ("a remote server"), which performs voice control interpretation processes; examples of voice control interpretation are web browsing and commands to a television (column 3, lines 45 to 65: Figure 1); web browsing and commands to a television are examples of "a task model".

Regarding claims 5, 13, 20, and 26, *Thrift et al.* discloses host 11 ("said remote server") could dynamically generate the grammar and download the grammar file to control unit 10 (column 3, lines 41 to 45: Figure 1); a grammar file is downloaded in response to speech data ("said recognizable text signal") requesting a new web page (column 5, line 48 to column 6, line 13: Figure 5).

Regarding claim 6, *Thrift et al.* discloses the output of the voice recognizer is speech data; the speech data is transmitted to host system 11 ("a remote server"), which performs voice control interpretation processes; examples of voice control interpretation processes are web browsing and commands to a television (column 3, lines 45 to 65: Figure 1); web browsing and commands to a television are examples of "a task model".

Regarding claims 7, 14, and 28, *Thrift et al.* discloses examples of voice control interpretation are web browsing and commands to a television; host system 11 ("a remote server") may respond to voice input to control unit 10 by executing a command or providing a hypermedia (Web) link (column 3, lines 45 to 65: Figure 1); thus, host system 11 must monitor "progress toward satisfying a goal of said user" to display a television schedule or browse the web.

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Regarding claim 27, *Thrift et al.* discloses host 11 ("said remote server") could dynamically generate the grammar and download the grammar file to control unit 10 (column 3, lines 41 to 45: Figure 1); a grammar file is downloaded in response to speech data ("said recognizable text signal") requesting a new web page (column 5, line 48 to column 6, line 13: Figure 5); implicitly, something that forwards grammar file updates from a host system 11 to a control unit 10 is "a grammar manager".

Regarding claim 29, *Thrift et al.* discloses host system 11 provides voice control interpretation processes for dialogs via speakable hotlist processes (column 4, line 33 to column 5, line 19: Figure 3); an interpretation process for determining which processes are hotlist processes is equivalent to "a dialog manager".

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 to 4, 10 to 12, 17 to 19, and 23 to 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Thrift et al.* in view of *Balakrishnan et al.*

Thrift et al. updates a grammar file ("adapting said performance of speech recognition") based upon a currently displayed web page of a speakable command list ("based on at least one local parameter"), but omits adapting performance of speech recognition based on a parameter representative of environmental noise, acoustic

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environment, and pronunciation of a user. However, it is well known that speech recognition systems can be trained to improve performance with respect to individual user pronunciations and environmental noise. *Balakrishnan et al.* teaches context dependent phoneme networks that are specific to a user and an environment. (Column 2, Lines 10 to 49) In operation, a first part of an operating system 44 generates a CD phoneme network in order to capture user and environment specific acoustic models, which are continually adapting to the user's voice, environment, and use of language. The second part 50 of the operating system 44 then uses appropriate search engine applets 51 to retrieve a CD network. (Column 4, Line 66 to Column 5, Line 56) Implicitly, an environment for speech recognition is inclusive of environmental noise. The objective is to eliminate obstacles to computer speech recognition by not requiring that each application will have to keep separate acoustic models for each user/environment and so that performance is not sacrificed. (Column 1, Lines 24 to 55) It would have been obvious to one having ordinary skill in the art to adapt performance of speech recognition based on parameters representative of environmental noise, acoustic environment, and pronunciation of a user as taught by *Balakrishnan et al.* in the wireless voice-activated device for control of a processor-based host system of *Thrift et al.* for the purpose of eliminating obstacles to speech recognition by not requiring that each application have separate acoustic models for each user/environment.

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5. Claims 8 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Thrift et al.* in view of *Ramaswamy et al.*

Thrift et al. discloses grammar files ("said language model") are stored in memory 10f of control unit 10 ("said client device"), but does not specifically say that grammar files are stored in a cache. However, it is well known that files currently being used by a computer system are commonly stored in cache to reduce memory access operations. Thus, it is likely implicit that memory 10f includes a cache, and grammar files are stored in cache memory for *Thrift et al.* *Ramaswamy et al.* teaches an analogous art speaker verification method and system, where speech recognition engines use a language model. When more than one language model is used, some of the models may be personalized to a given user, and stored in a personal cache, built using words and phrases spoken frequently by a given user. (Column 5, Lines 22 to 27) It would have been obvious to one having ordinary skill in the art to store dynamically updated grammar files of control unit 10 from *Thrift et al.* in a cache memory as suggested by *Ramaswamy et al.* for the purpose of reducing memory access operations for words and phrases spoken frequently by a given user.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Hemphill, Sharma et al., Dragosh et al., Besling et al., Jacobs et al., Chung et al., and Kuhn et al. disclose related art.

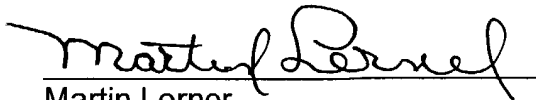
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (703) 308-9064. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ML
11/8/04


Martin Lerner
Examiner
Group Art Unit 2654